

# Conducted test results n20-mode PS 15

No.1-6998/23-01-11\_TR1-A203-R2

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January 04, 2024

Test Standard(s)	FCC 15.247 - NI FCC 15.247, ISED RSS247 - NI
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## Table of Content

EUT Information	3
FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 n-HT20 mode	4
FCC 15.247 # Peak psd DTS ~ WLAN2G4 n-HT20 mode	6
FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 n-HT20 mode	8
FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode	12
FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 n-HT20 mode	15
FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 n-HT20 mode	17
FCC 15.247 # Peak psd DTS ~ WLAN2G4 n-HT20 mode	19
FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 n-HT20 mode	21
FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode	25
FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 n-HT20 mode	28
FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 n-HT20 mode	30
FCC 15.247 # Peak psd DTS ~ WLAN2G4 n-HT20 mode	32
FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 n-HT20 mode	34
FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode	38
FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 n-HT20 mode	41

## EUT Information

### EUT DEFINITION

Manufacturer	Leica Geosystems AG
Type	LG1001
Serial Number	3800113
Setup Number	1.0
Version SW	0.1
Version FW	BSP v4.0.20
Version HW	C
Comment 1	
Comment 2	
Temperature [°C] Min	-30
Temperature [°C] Nom	20
Temperature [°C] Max	60
Voltage [V] Min	2.5
Voltage [V] Nom	3.7
Voltage [V] Max	4.1

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 n-HT20 mode

### References

TC start	04.01.2024 12:22:45
Ambit temp [°C]   humidity [rel%]	22.5   40
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

### Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

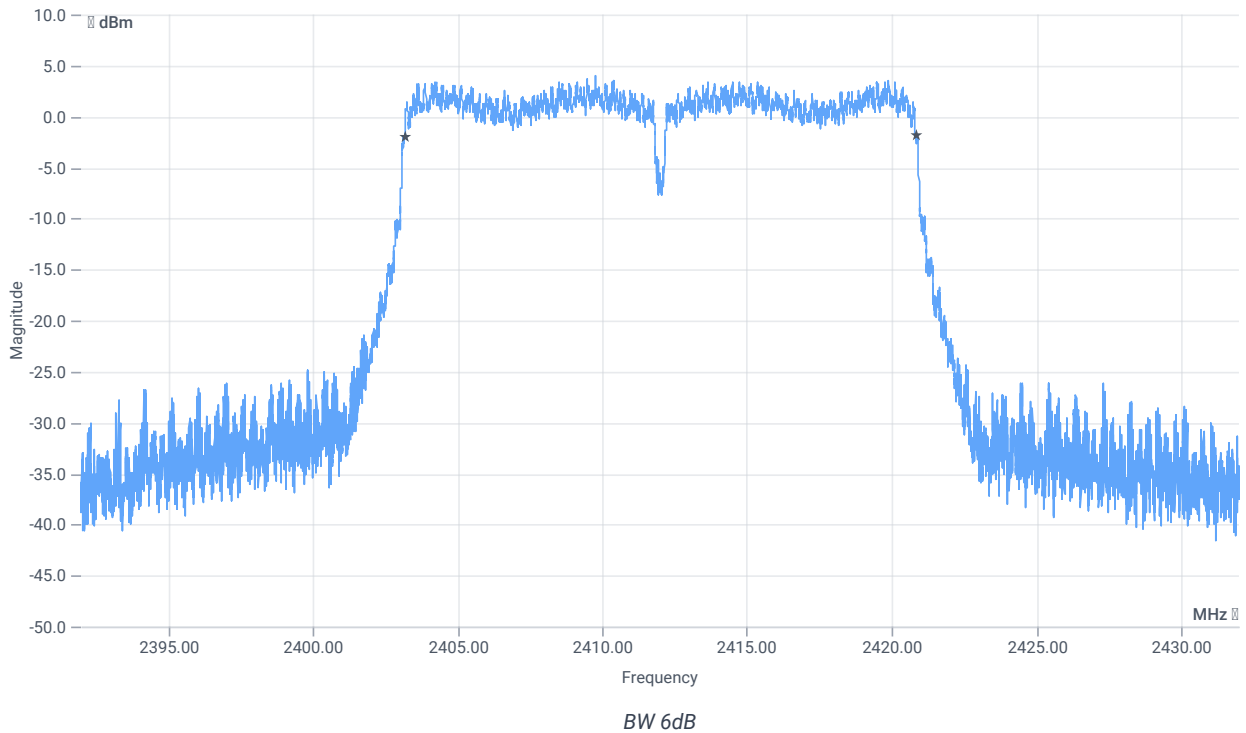
## Test at TX 2412 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.15	dBm	INFO
Ref. Frequency	--	--	2419.590	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	19.15   13.85   25
Start [MHz]   Stop [MHz]	2392.000   2432.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	50   200   10001   SWE



### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	--	17696	kHz	PASS

Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ WLAN2G4 n-HT20 mode

### References

TC start	04.01.2024 12:23:19
Ambit temp [°C]   humidity [rel%]	22.5   40
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Description	FCC 15.247 Peak psd DTS - WLAN2G4 nHT20_mode
Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

### Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

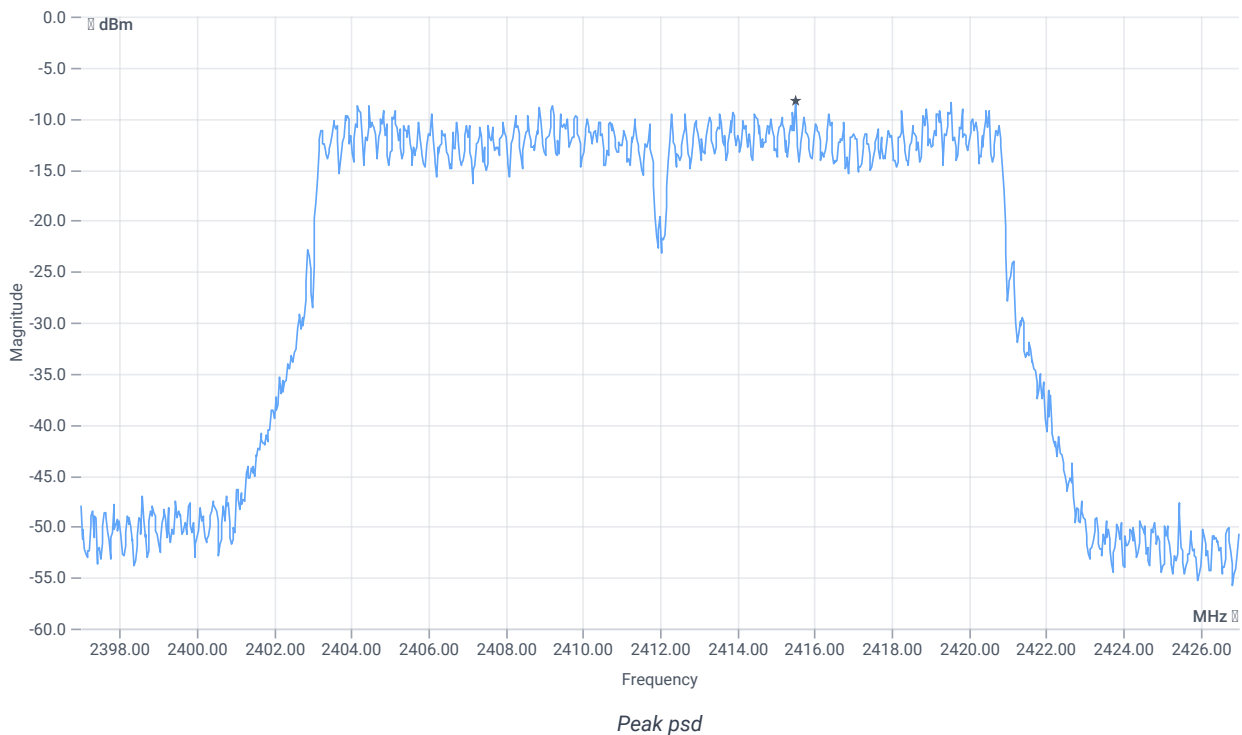
## Test at TX 2412 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	13.92	dBm	INFO
Ref. Frequency	--	--	2409.100	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	18.92   13.85   25
Start [MHz]   Stop [MHz]	2397.000   2427.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	1000   20   1001   SWE



### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak psd	--	8	-8.19	dBm/3KHz	PASS

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 n-HT20 mode

## References

TC start	04.01.2024 12:24:02
Ambit temp [°C]   humidity [rel%]	22.5   40
System version	4.7.1.4
Standard   Version	FCC 15.247, ISED RSS247   NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

## EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

## Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI



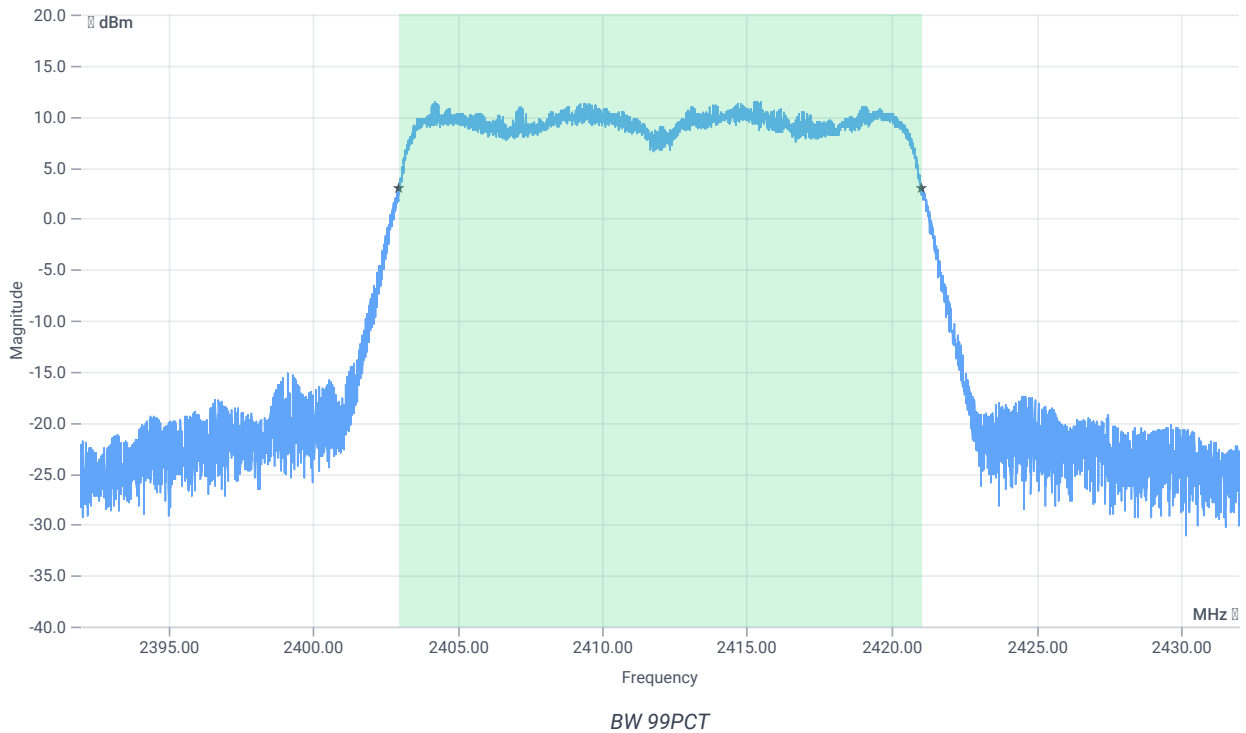
## Test at TX 2412 MHz

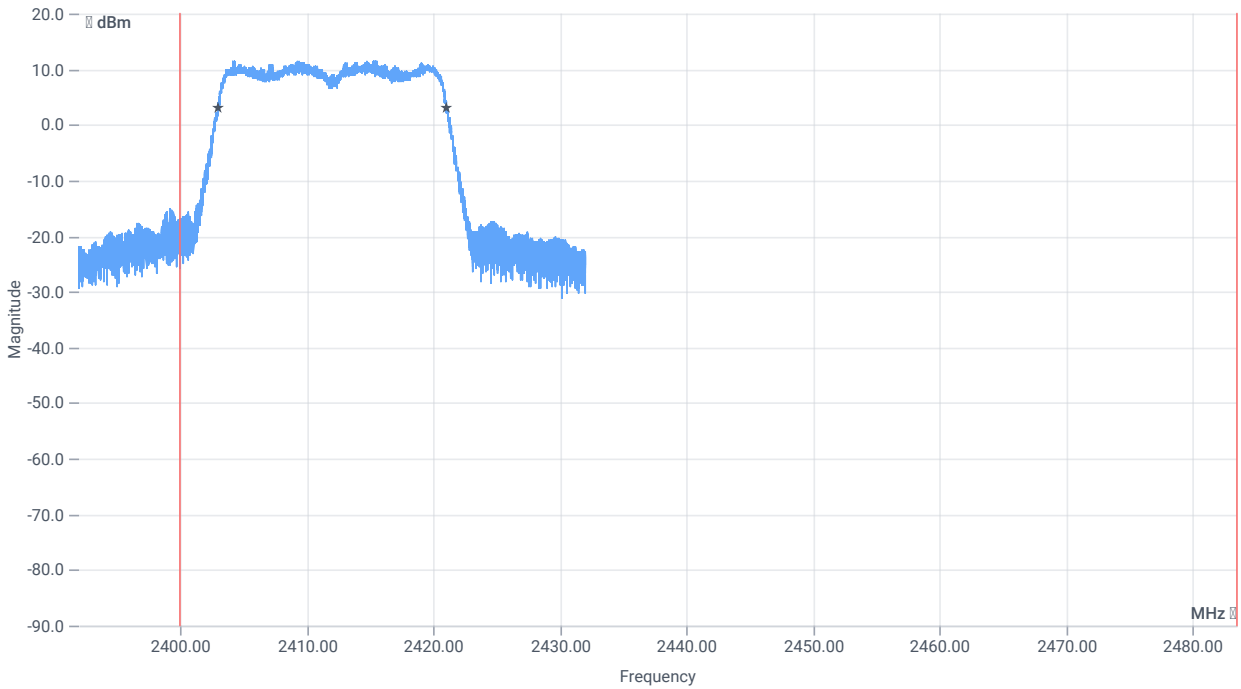
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.52	dBm	INFO
Ref. Frequency	--	--	2409.300	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	19.52   13.85   25
Start [MHz]   Stop [MHz]	2392.000   2432.000
RBW [MHz]   VBW [MHz]	0.500000   2.000000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	50   200   10001   SWE

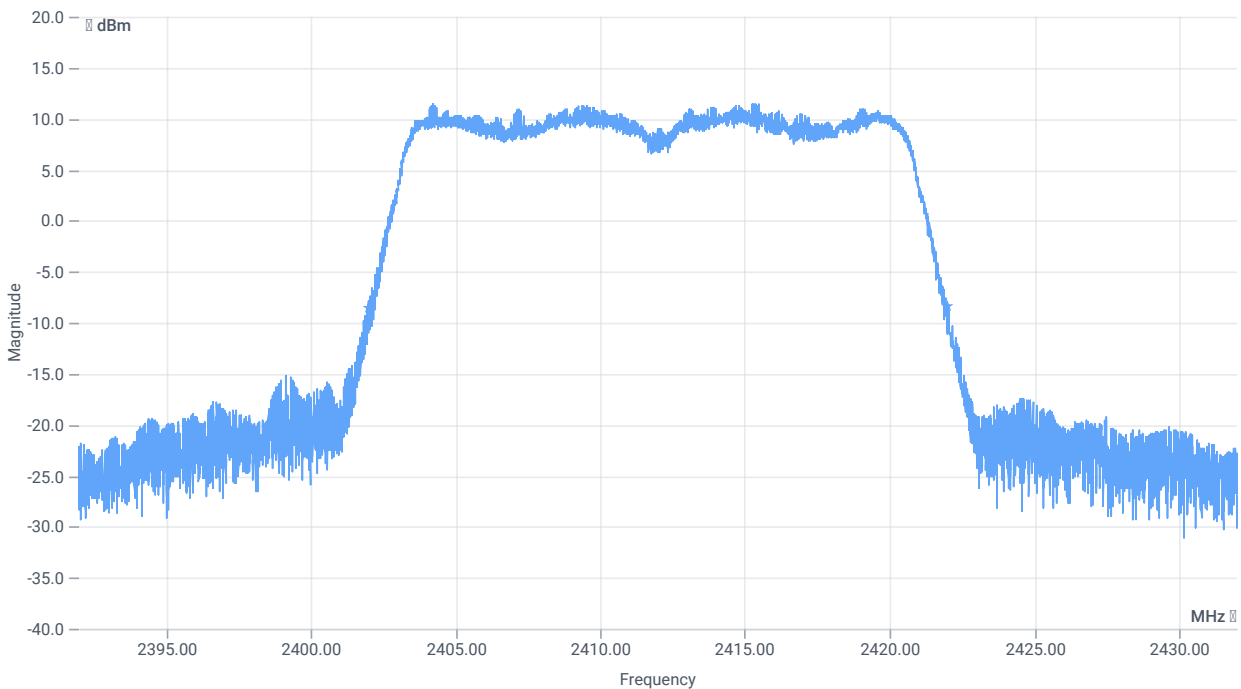




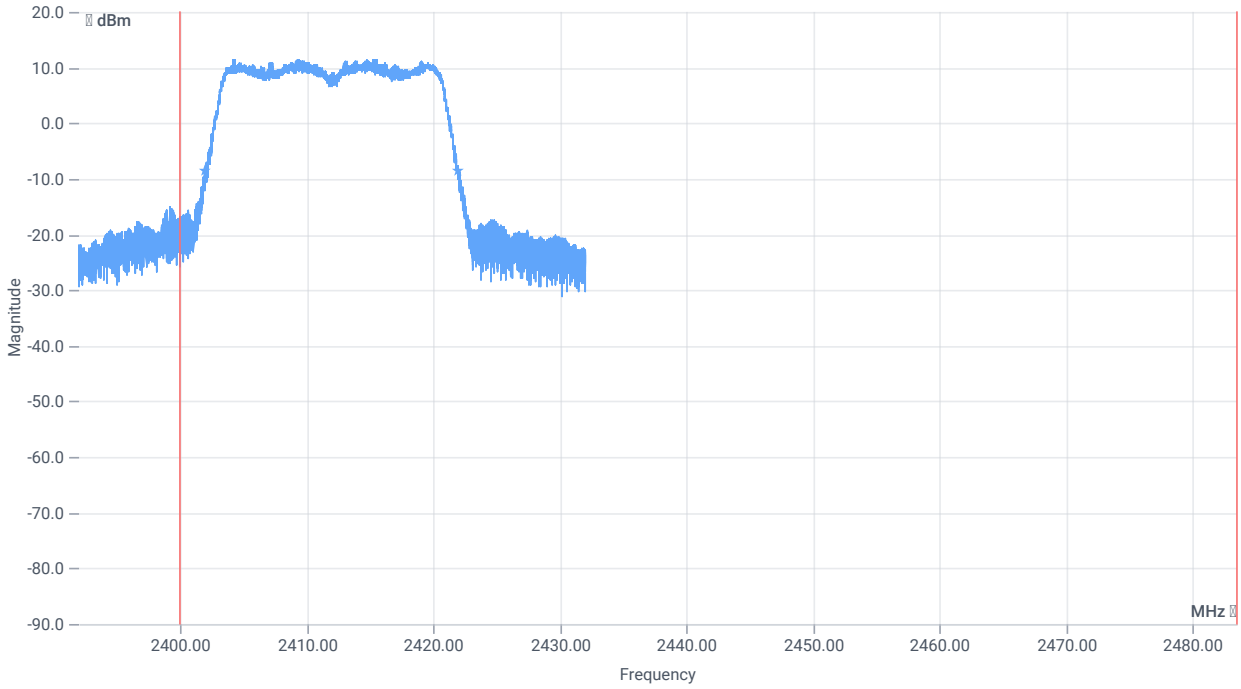
BW within Band 99PCT

### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	--	--	18034.000	kHz	INFO
T1 99%	2400.000000	--	2402.9969	MHz	PASS
T2 99%	--	2483.500000	2421.0311	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	--	--	20024	kHz	INFO
T1 20DB	2400.000000	--	2401.9720	MHz	PASS
T2 20dB	--	2483.500000	2421.9960	MHz	PASS

Verdict

PASS

# FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode

## References

TC start	04.01.2024 12:24:39
Ambit temp [°C]   humidity [rel%]	22.5   40
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted DTS DTS - WLAN2G4 nHT20_mode
Information	

## EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

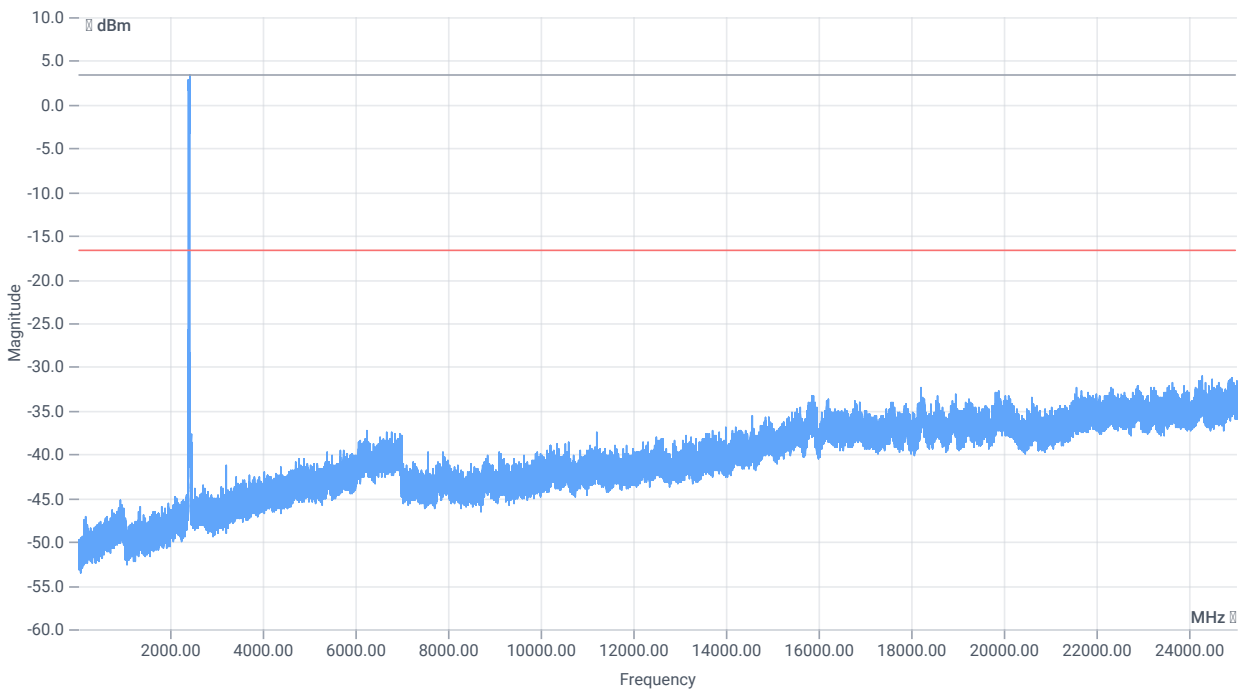
## Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

## Test at TX 2412 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.08	dBm	INFO
Ref. Frequency	--	--	2419.590	MHz	INFO



TX emissions

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.08   0   30
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	200   25   2001   SWE



TX emissions band zoomed

## RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2409.25 MHz	--	--	3.36	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 2399.25 MHz	0	--	9.2	dB	INFO

Verdict

PASS

## FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 n-HT20 mode

### References

TC start	04.01.2024 12:32:03
Ambit temp [°C]   humidity [rel%]	22.4   41
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Description	FCC 15.247 Peak output power PM DTS - WLAN2G4 n-HT20 mode
Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	True   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - PowerMeter

### Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI
Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

## Test at TX 2412 MHz

### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak power	--	30	26.76	dBm	PASS

Verdict

PASS



## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 n-HT20 mode

### References

TC start	04.01.2024 12:33:13
Ambit temp [°C]   humidity [rel%]	22.4   41
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	True   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

### Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

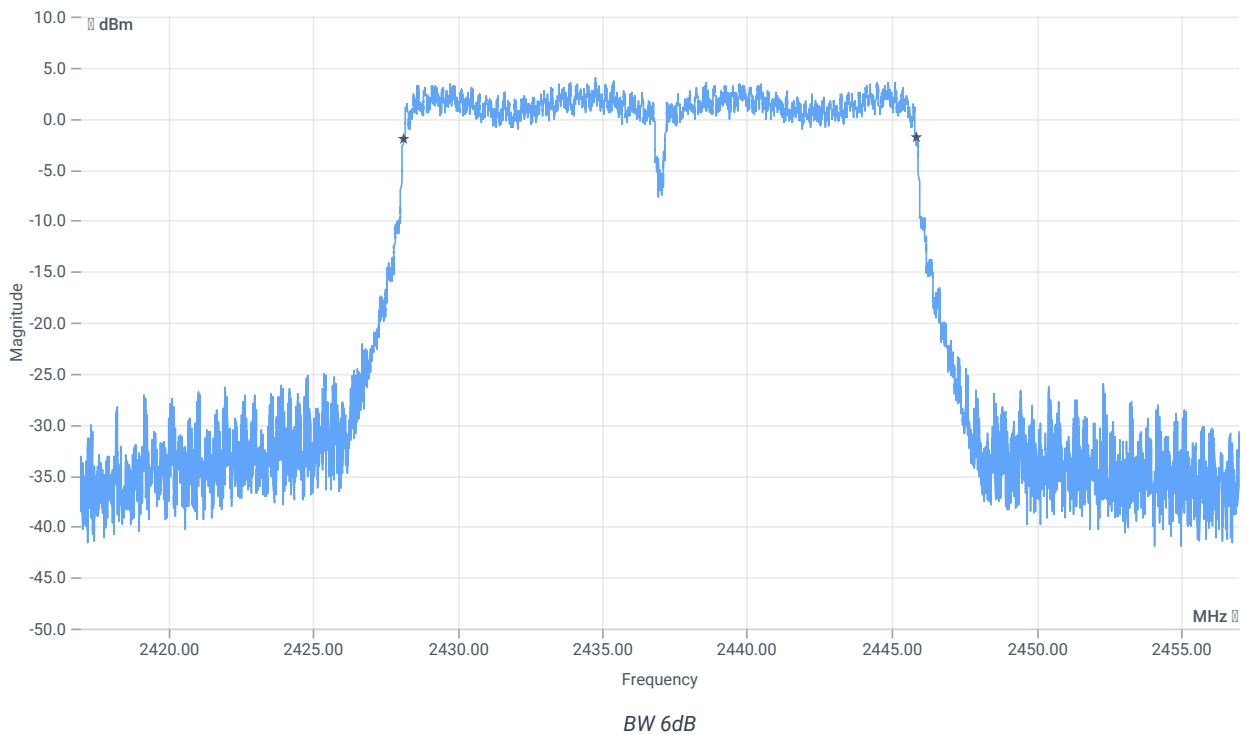
## Test at TX 2437 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.52	dBm	INFO
Ref. Frequency	--	--	2439.800	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	19.52   14.01   25
Start [MHz]   Stop [MHz]	2417.000   2457.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	50   200   10001   SWE



### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	--	17748	kHz	PASS

Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ WLAN2G4 n-HT20 mode

### References

TC start	04.01.2024 12:33:49
Ambit temp [°C]   humidity [rel%]	22.4   41
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Description	FCC 15.247 Peak psd DTS - WLAN2G4 nHT20_mode
Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	True   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

### Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

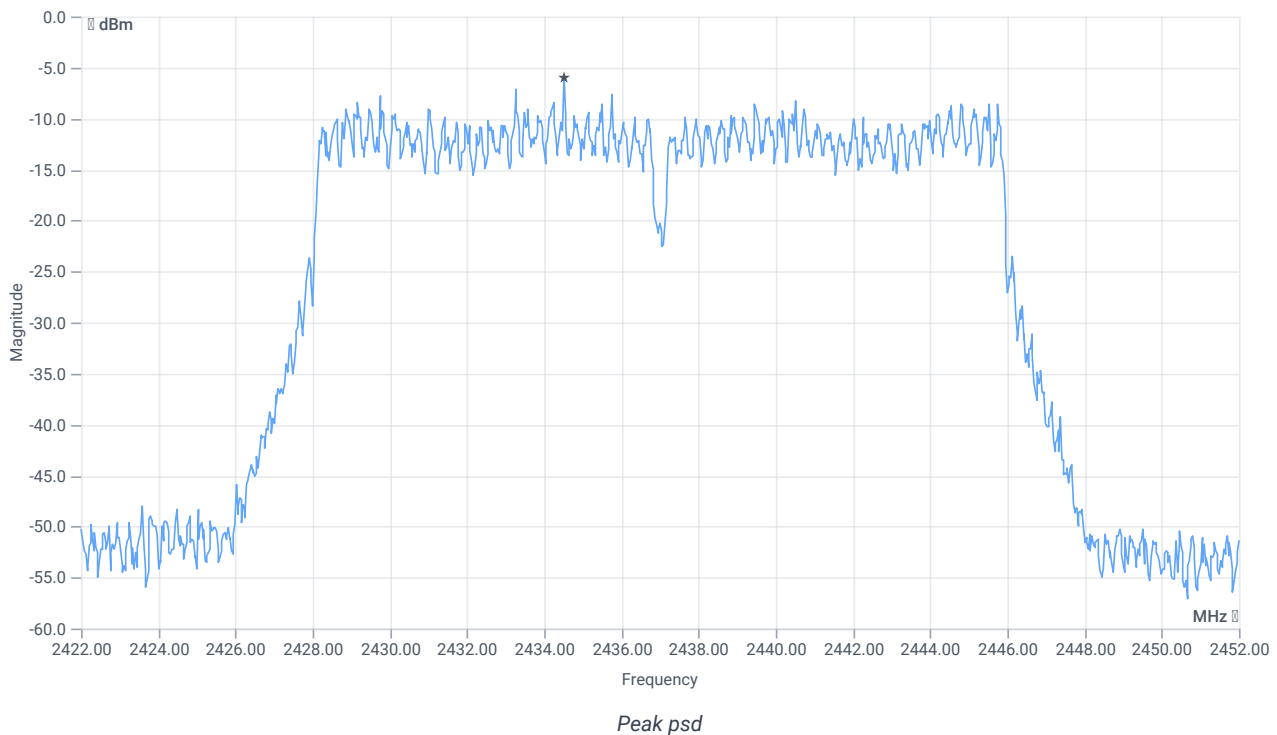
## Test at TX 2437 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	13.98	dBm	INFO
Ref. Frequency	--	--	2429.510	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	18.98   14.01   20
Start [MHz]   Stop [MHz]	2422.000   2452.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	1000   20   1001   SWE



### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak psd	--	8	-6.03	dBm/3KHz	PASS

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 n-HT20 mode

## References

TC start	04.01.2024 12:34:30
Ambit temp [°C]   humidity [rel%]	22.4   41
System version	4.7.1.4
Standard   Version	FCC 15.247, ISED RSS247   NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

## EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	True   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

## Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

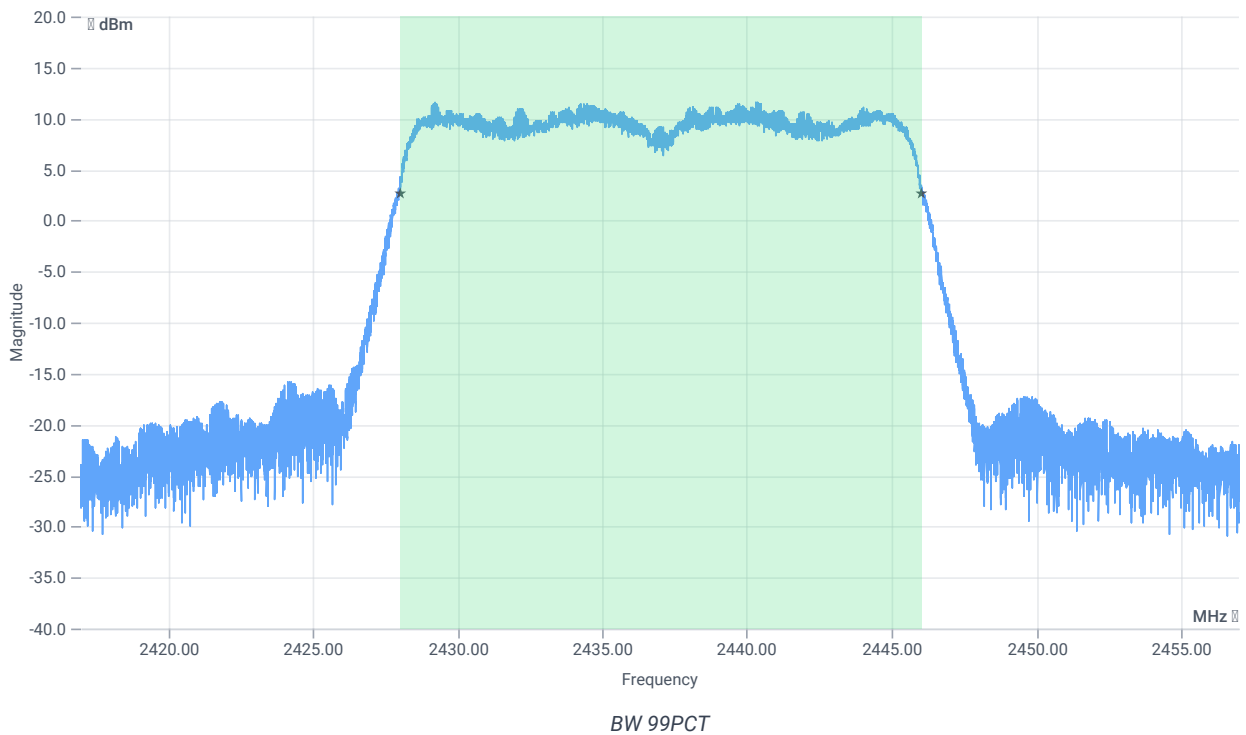
## Test at TX 2437 MHz

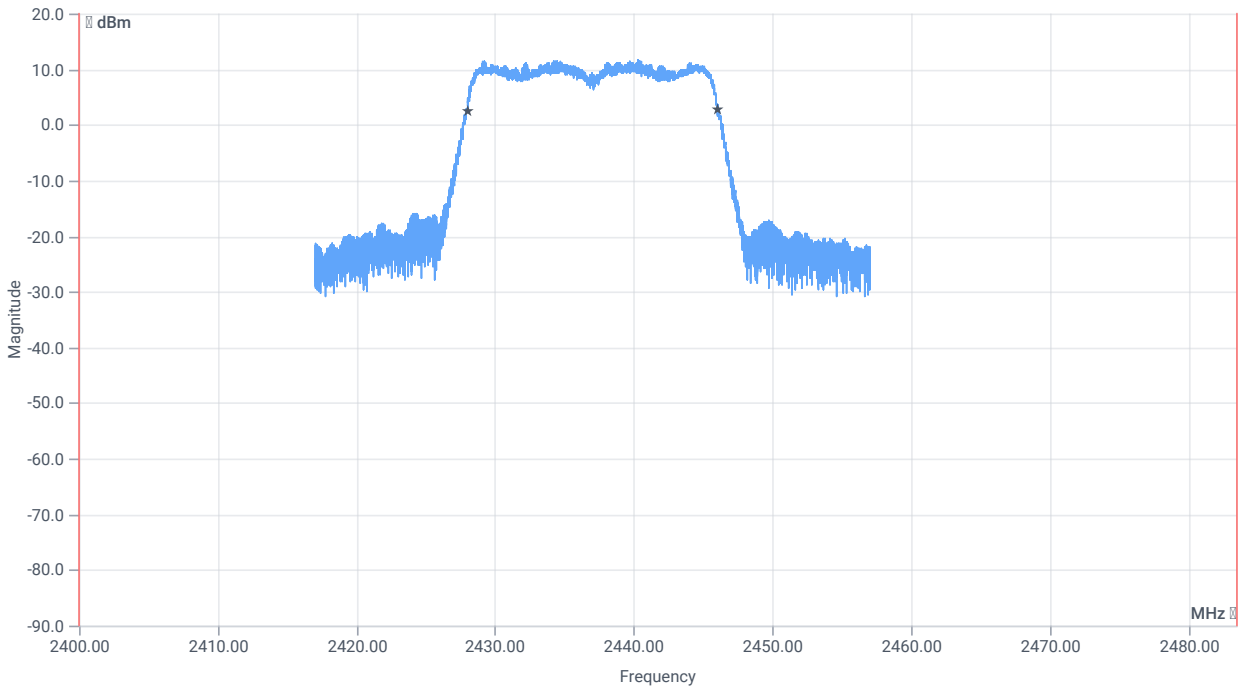
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.17	dBm	INFO
Ref. Frequency	--	--	2429.410	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	19.17   14.01   25
Start [MHz]   Stop [MHz]	2417.000   2457.000
RBW [MHz]   VBW [MHz]	0.500000   2.000000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	50   200   10001   SWE

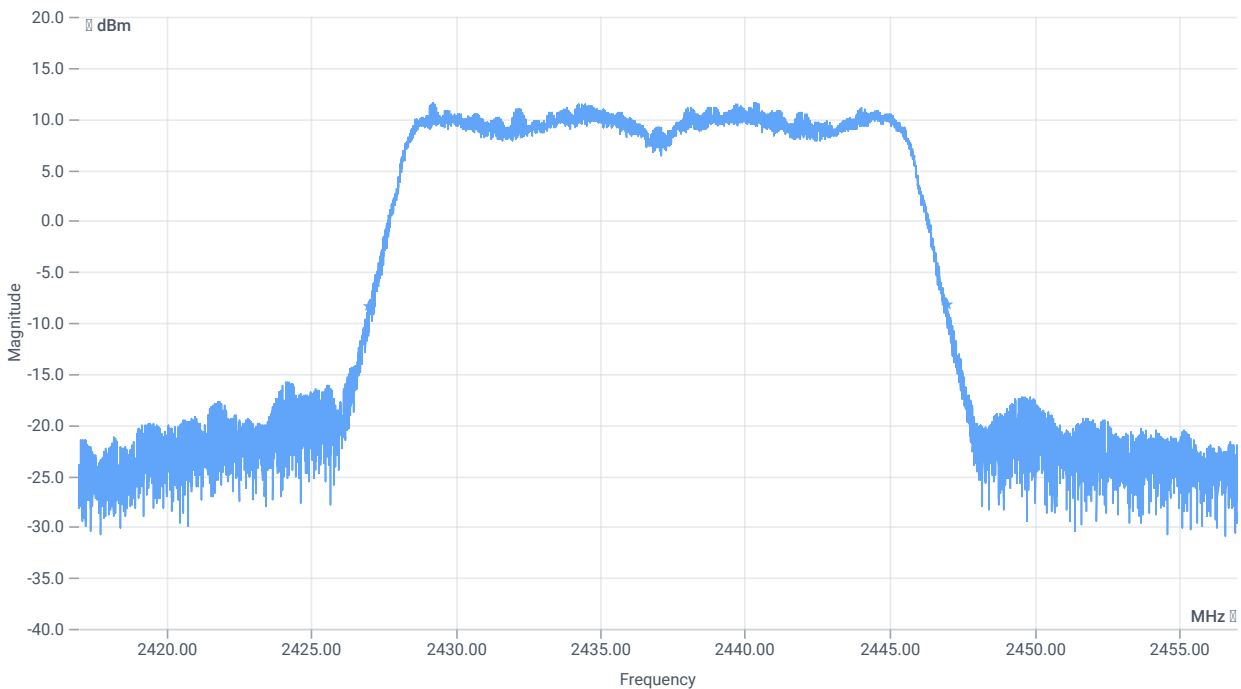




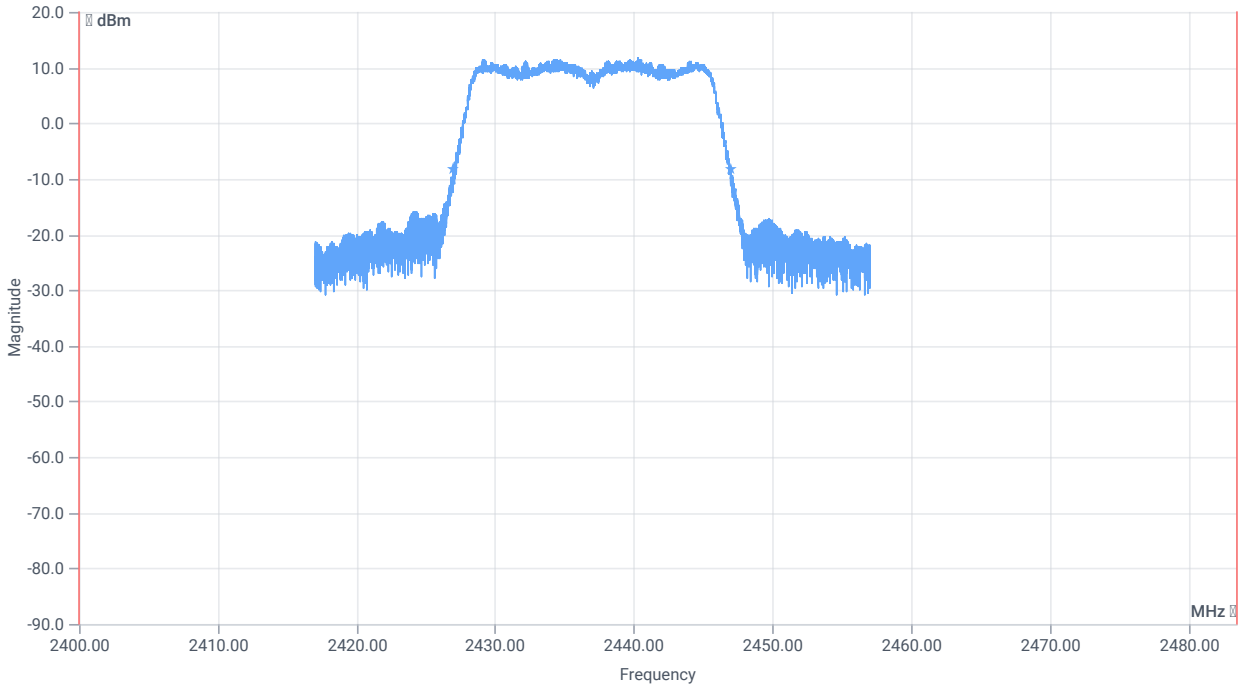
*BW within Band 99PCT*

## RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	--	--	18022.000	kHz	INFO
T1 99%	2400.000000	--	2428.0009	MHz	PASS
T2 99%	--	2483.500000	2446.0231	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	--	--	19972	kHz	INFO
T1 20dB	2400.000000	--	2427.0000	MHz	PASS
T2 20dB	--	2483.500000	2446.9720	MHz	PASS

Verdict

PASS



# FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode

## References

TC start	04.01.2024 12:35:06
Ambit temp [°C]   humidity [rel%]	22.5   41
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted DTS DTS - WLAN2G4 nHT20_mode
Information	

## EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	True   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

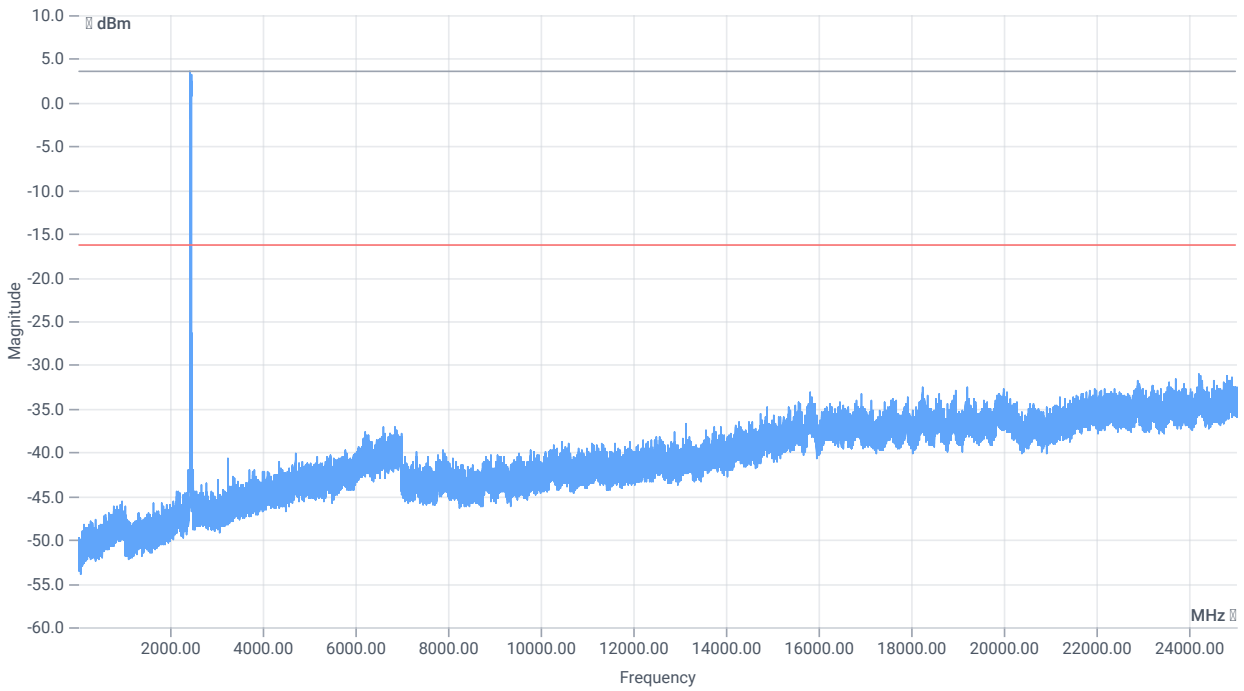
## Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

## Test at TX 2437 MHz

RESULT: Reference Power cond.

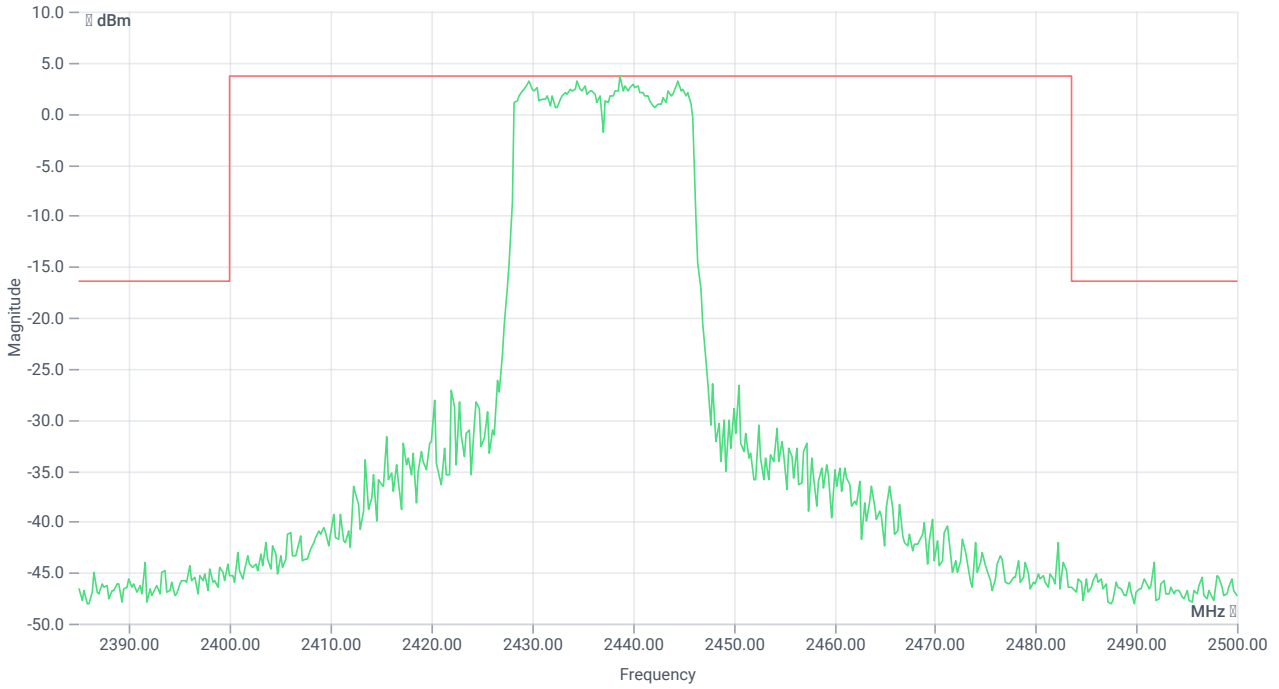
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.33	dBm	INFO
Ref. Frequency	--	--	2439.400	MHz	INFO



TX emissions

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.33   0   30
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	200   25   2001   SWE



TX emissions band zoomed

## RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2438.75 MHz	--	--	3.62	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 24221 MHz	0	--	14.7	dB	INFO

Verdict

PASS

## FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 n-HT20 mode

### References

TC start	04.01.2024 12:42:33
Ambit temp [°C]   humidity [rel%]	22.4   40
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Description	FCC 15.247 Peak output power PM DTS - WLAN2G4 n-HT20 mode
Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	True   Freq [MHz] 2437
Frequency high to test	False   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - PowerMeter

### Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI
Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

## Test at TX 2437 MHz

### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak power	--	30	26.72	dBm	PASS

Verdict

PASS

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 n-HT20 mode

### References

TC start	04.01.2024 12:48:13
Ambit temp [°C]   humidity [rel%]	22.4   40
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	
Description	FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 n-HT20 mode
Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	True   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

### Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

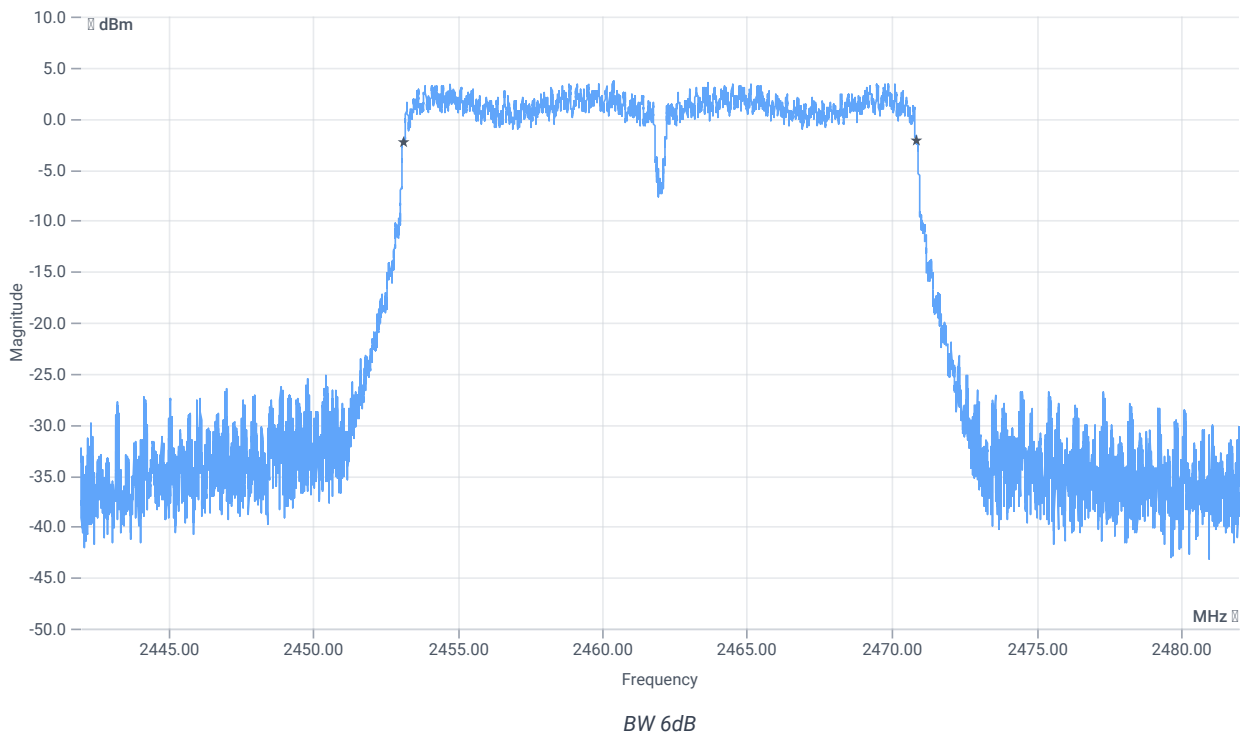
## Test at TX 2462 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.87	dBm	INFO
Ref. Frequency	--	--	2459.300	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	19.87   14.14   25
Start [MHz]   Stop [MHz]	2442.000   2482.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	50   200   10001   SWE



### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
DTS Bandwidth (6dB)	500	--	17764	kHz	PASS

Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ WLAN2G4 n-HT20 mode

### References

TC start	04.01.2024 12:48:46
Ambit temp [°C]   humidity [rel%]	22.4   40
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission
Description	FCC 15.247 Peak psd DTS - WLAN2G4 nHT20_mode
Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	True   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

### Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI



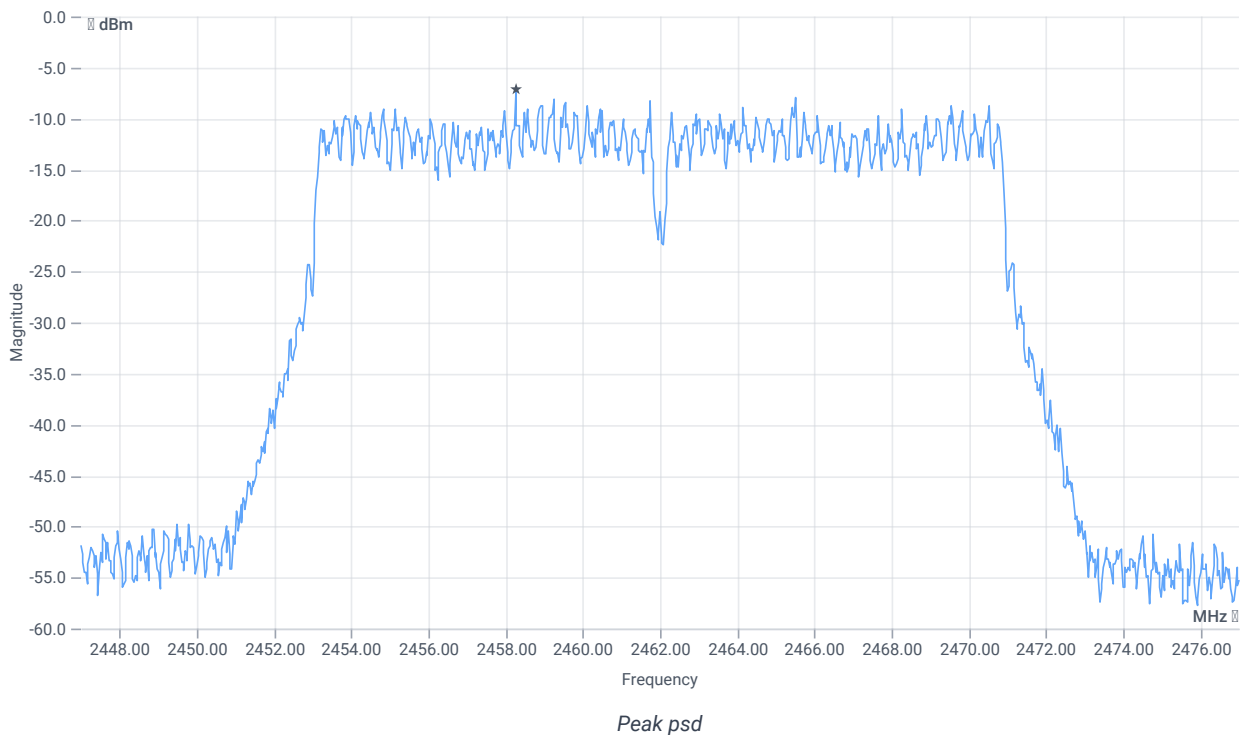
## Test at TX 2462 MHz

RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.35	dBm	INFO
Ref. Frequency	--	--	2464.900	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	19.35   14.14   25
Start [MHz]   Stop [MHz]	2447.000   2477.000
RBW [MHz]   VBW [MHz]	0.003000   0.010000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	1000   20   1001   SWE



### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak psd	--	8	-7.17	dBm/3KHz	PASS

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 n-HT20 mode

## References

TC start	04.01.2024 12:49:27
Ambit temp [°C]   humidity [rel%]	22.4   40
System version	4.7.1.4
Standard   Version	FCC 15.247, ISED RSS247   NI
Method	
Description	FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 n-HT20 mode
Information	

## EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	True   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

## Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

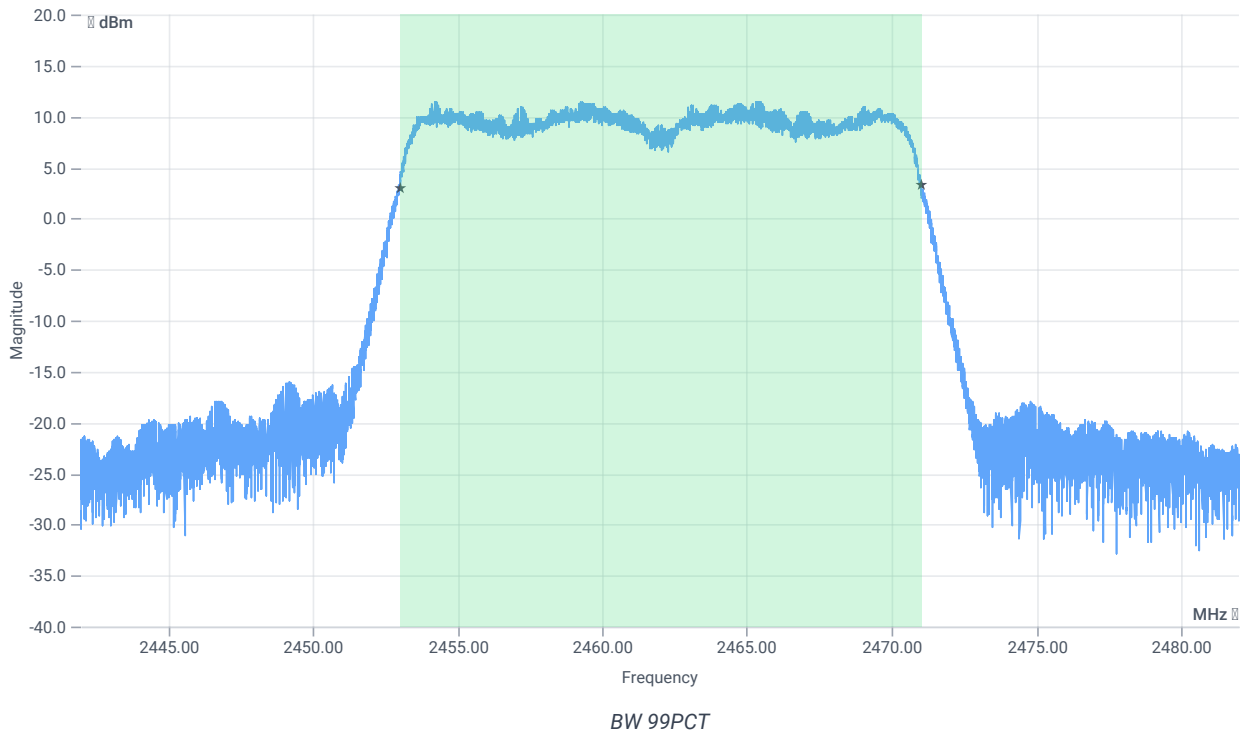
## Test at TX 2462 MHz

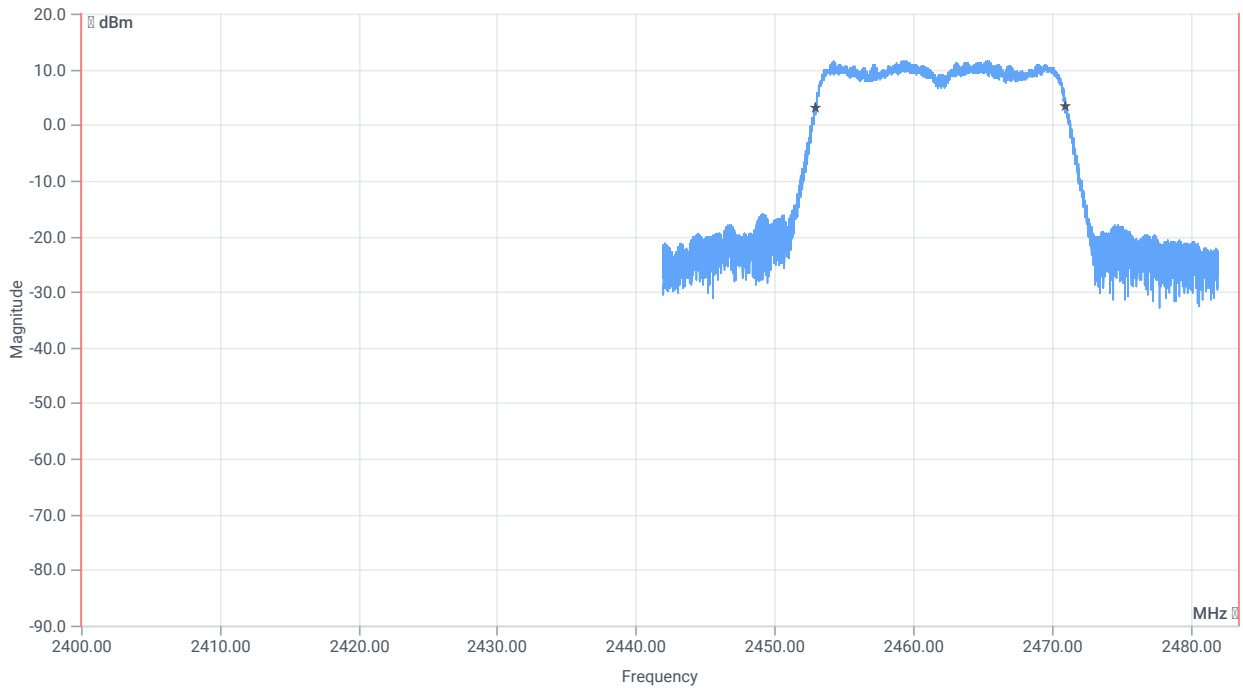
RESULT: Reference Power cond.

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.28	dBm	INFO
Ref. Frequency	--	--	2459.500	MHz	INFO

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	19.28   14.14   25
Start [MHz]   Stop [MHz]	2442.000   2482.000
RBW [MHz]   VBW [MHz]	0.500000   2.000000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	50   200   10001   SWE

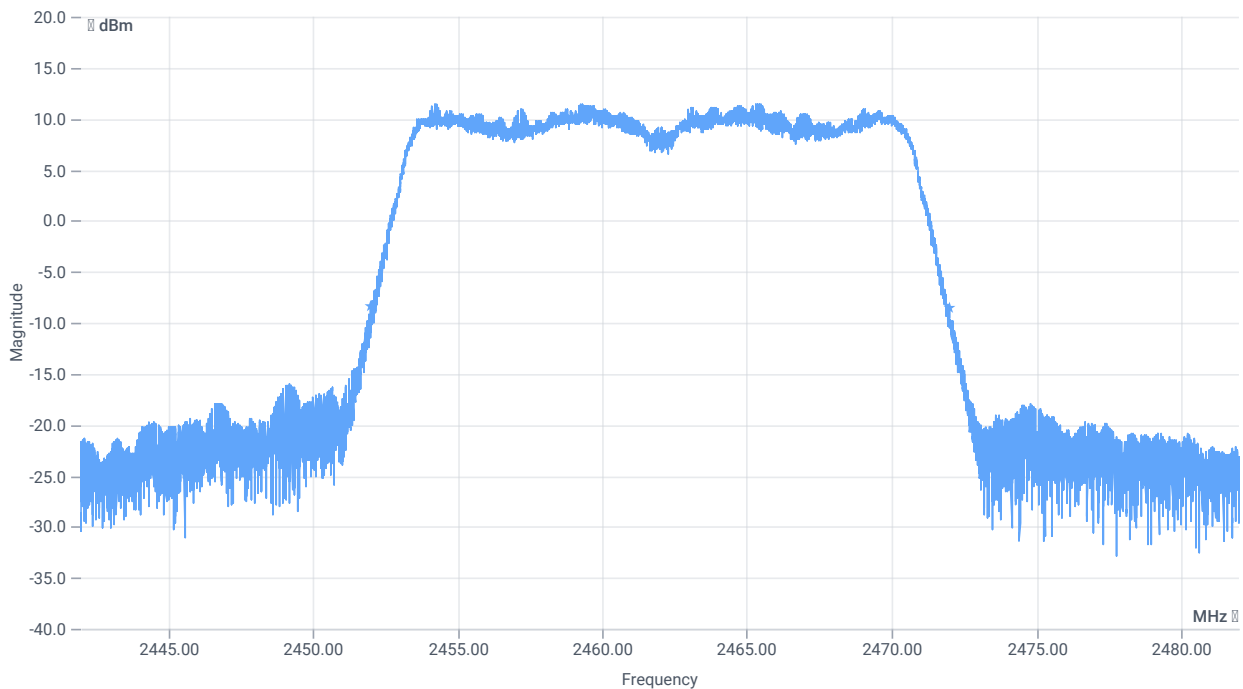




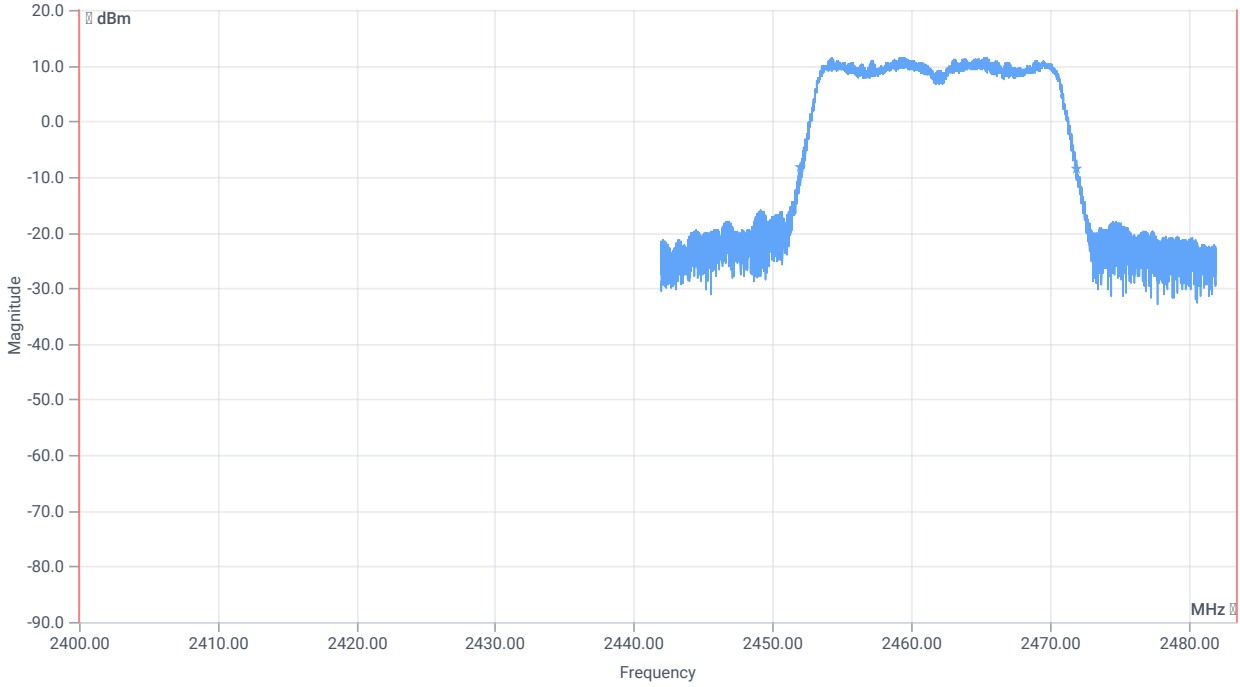
BW within Band 99PCT

## RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 99%	--	--	18010.000	kHz	INFO
T1 99%	2400.000000	--	2453.0009	MHz	PASS
T2 99%	--	2483.500000	2471.0111	MHz	PASS



BW 20dB



BW within Band 20dB

RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Bandwidth 20dB	--	--	19960	kHz	INFO
T1 20dB	2400.000000	--	2452.0200	MHz	PASS
T2 20dB	--	2483.500000	2471.9800	MHz	PASS

Verdict

PASS

# FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 n-HT20 mode

## References

TC start	04.01.2024 12:50:06
Ambit temp [°C]   humidity [rel%]	22.4   40
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable
Description	FCC 15.247 TX Emissions Conducted DTS DTS - WLAN2G4 nHT20_mode
Information	

## EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

## Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	True   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - SpectrumAnalyzer

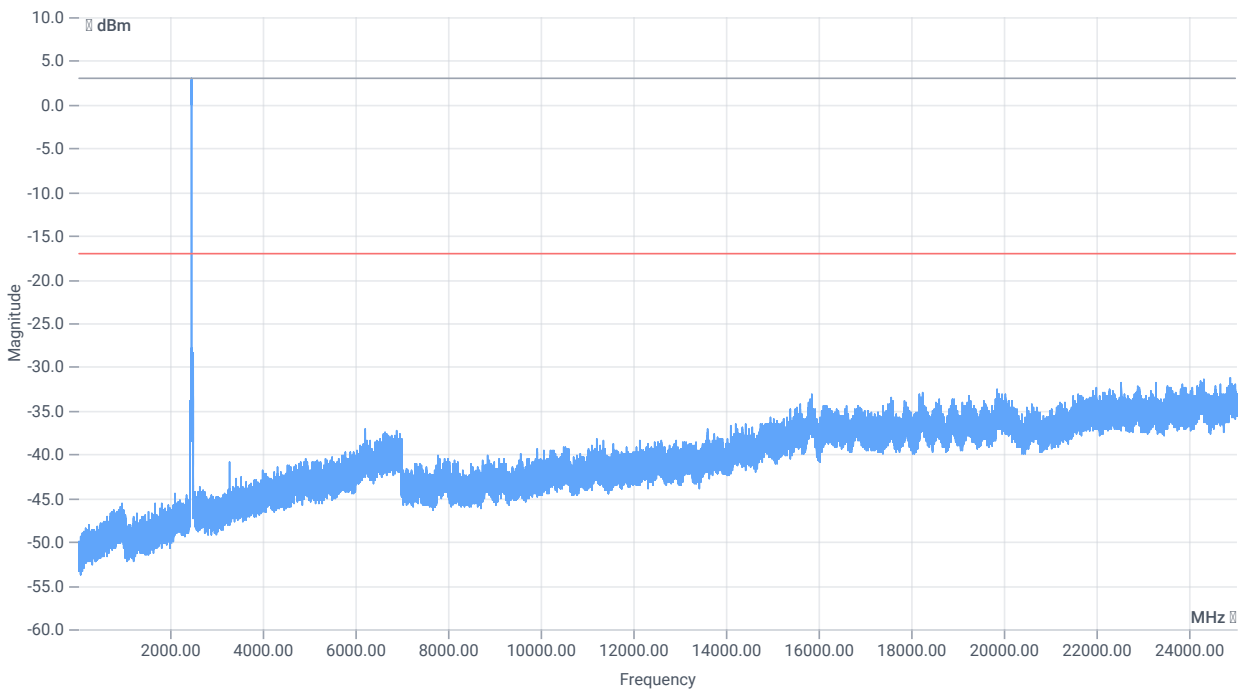
## Equipment

Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70
Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI

## Test at TX 2462 MHz

RESULT: Reference Power cond.

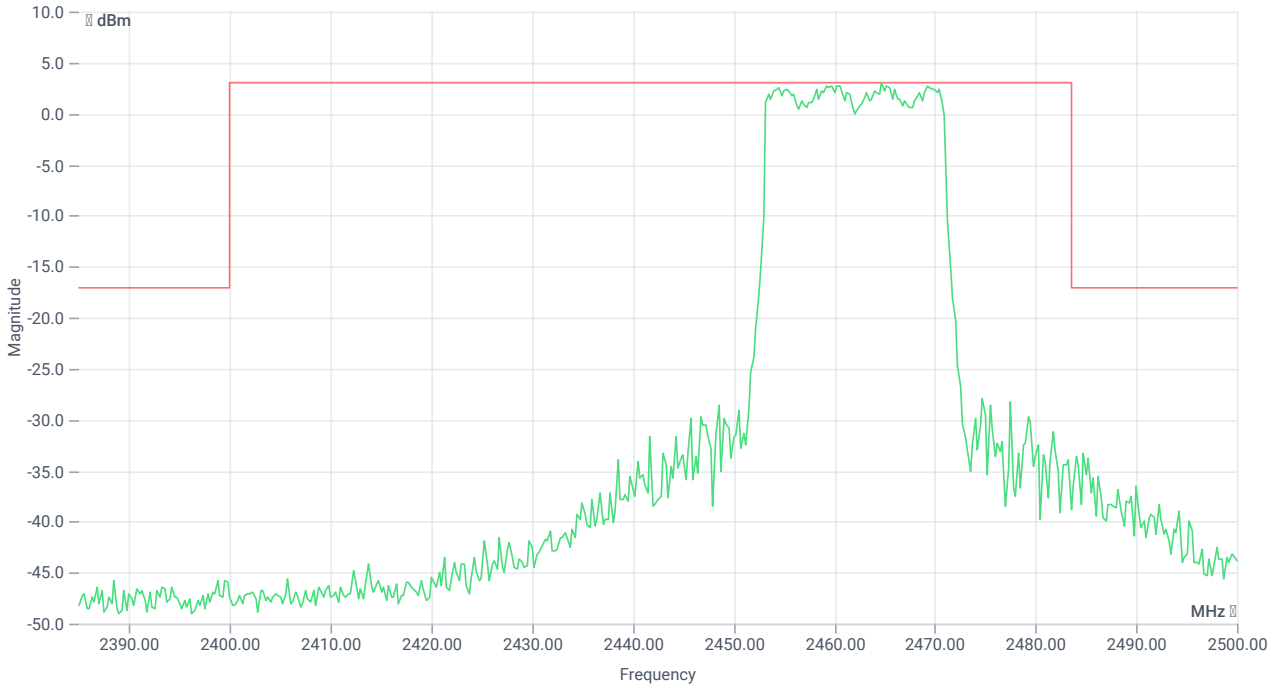
DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Ref. Power 1MHz/1MHz cond.	--	--	14.06	dBm	INFO
Ref. Frequency	--	--	2458.900	MHz	INFO



TX emissions

### READ SA SETTINGS:

RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]	14.06   0   30
Start [MHz]   Stop [MHz]	24530.000   25030.000
RBW [MHz]   VBW [MHz]	0.100000   0.300000
Detector   TraceMode	POS   MAXH
Sweep: time [ms]   count   points per Section   type	200   25   2001   SWE



TX emissions band zoomed

## RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Reference @ 2464.75 MHz	--	--	2.97	dBm	INFO
No peaks detected	--	--			PASS
Lowest margin to limit 2486.25 MHz	0	--	14.23	dB	INFO

Verdict

PASS



## FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 n-HT20 mode

### References

TC start	04.01.2024 12:57:30
Ambit temp [°C]   humidity [rel%]	22.4   40
System version	4.7.1.4
Standard   Version	FCC 15.247   NI
Method	DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method
Description	FCC 15.247 Peak output power PM DTS - WLAN2G4 n-HT20 mode
Information	

### EUT Common Settings WLAN2G4

Number of Antenna Ports	1
User Interaction	No

### Test Parameter

Technology to test	WLAN2G4 n-HT20 mode
Antenna port used	1
Temperature	nom
Voltage	nom
Frequency low to test	False   Freq [MHz] 2412
Frequency mid to test	False   Freq [MHz] 2437
Frequency high to test	True   Freq [MHz] 2462
Auto control enabled power supply   Climatic Box	No   No
Additional path loss [dB]	0.7
Full path name   type	EUT - SignalingUnit - PowerMeter

### Equipment

Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI
Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06

## Test at TX 2462 MHz

### RESULT

DESCRIPTION	LOWER LIMIT	UPPER LIMIT	MEASURED	UNIT	VERDICT
Peak power	--	30	26.5	dBm	PASS

Verdict

PASS

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